Fig. 1

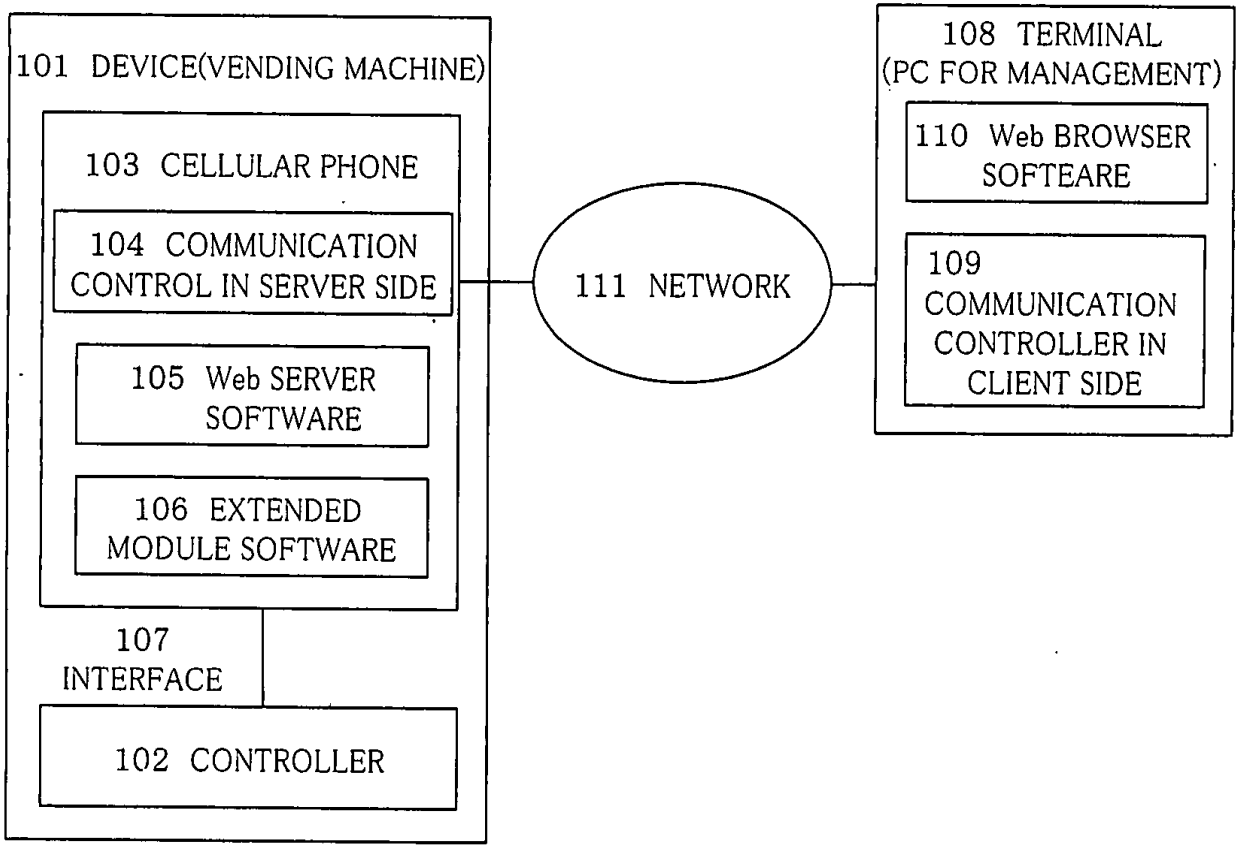

101 DEVICE(VENDING MACHINE)
103 CELLULAR PHONE
104 COMMUNICATION CONTROL IN SERVER SIDE
105 Web SERVER SOFTWARE
106 EXTENDED MODULE SOFTWARE
107 INTERFACE
102 CONTROLLER
111 NETWORK
108 TERMINAL (PC FOR MANAGEMENT)
110 Web BROWSER SOFTEARE
109 COMMUNICATION CONTROLLER IN CLIENT SIDE

Fig. 2

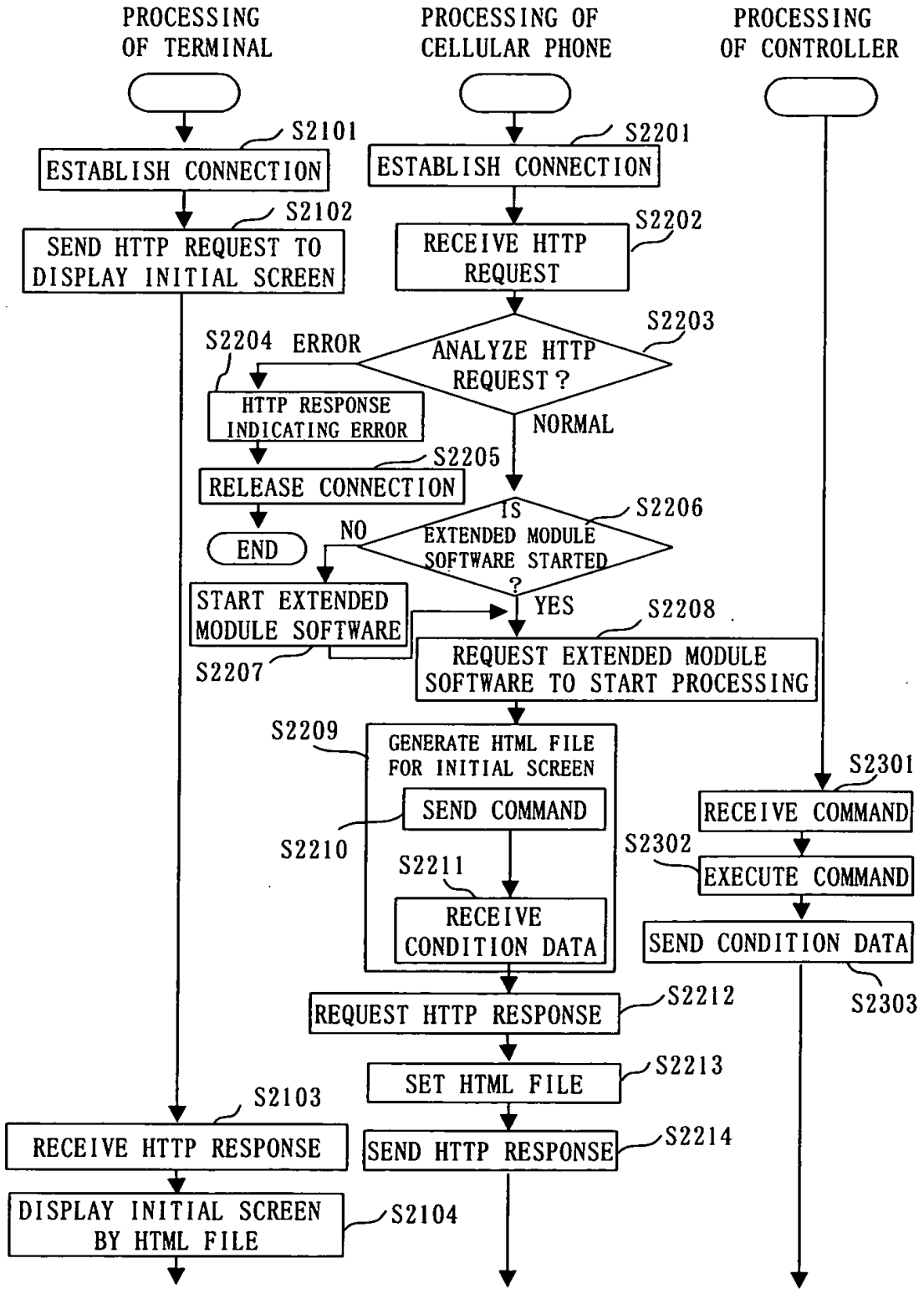

PROCESSING OF TERMINAL
PROCESSING OF CELLULAR PHONE
PROCESSING OF CONTROLLER
S2101
ESTABLISH CONNECTION
S2201
ESTABLISH CONNECTION
S2102
SEND HTTP REQUEST TO DISPLAY INITIAL SCREEN
S2202
RECEIVE HTTP REQUEST
S2203
ANALYZE HTTP REQUEST ?
S2204 ERROR
HTTP RESPONSE INDICATING ERROR
NORMAL
S2205
RELEASE CONNECTION
END
S2206
IS EXTENDED MODULE SOFTWARE STARTED ?
NO
YES
START EXTENDED MODULE SOFTWARE
S2207
S2208
REQUEST EXTENDED MODULE SOFTWARE TO START PROCESSING
S2209
GENERATE HTML FILE FOR INITIAL SCREEN
SEND COMMAND
S2210
S2211
RECEIVE CONDITION DATA
S2301
RECEIVE COMMAND
S2302
EXECUTE COMMAND
SEND CONDITION DATA
S2303
REQUEST HTTP RESPONSE
S2212
SET HTML FILE
S2213
SEND HTTP RESPONSE
S2214
S2103
RECEIVE HTTP RESPONSE
DISPLAY INITIAL SCREEN BY HTML FILE
S2104

Fig. 3

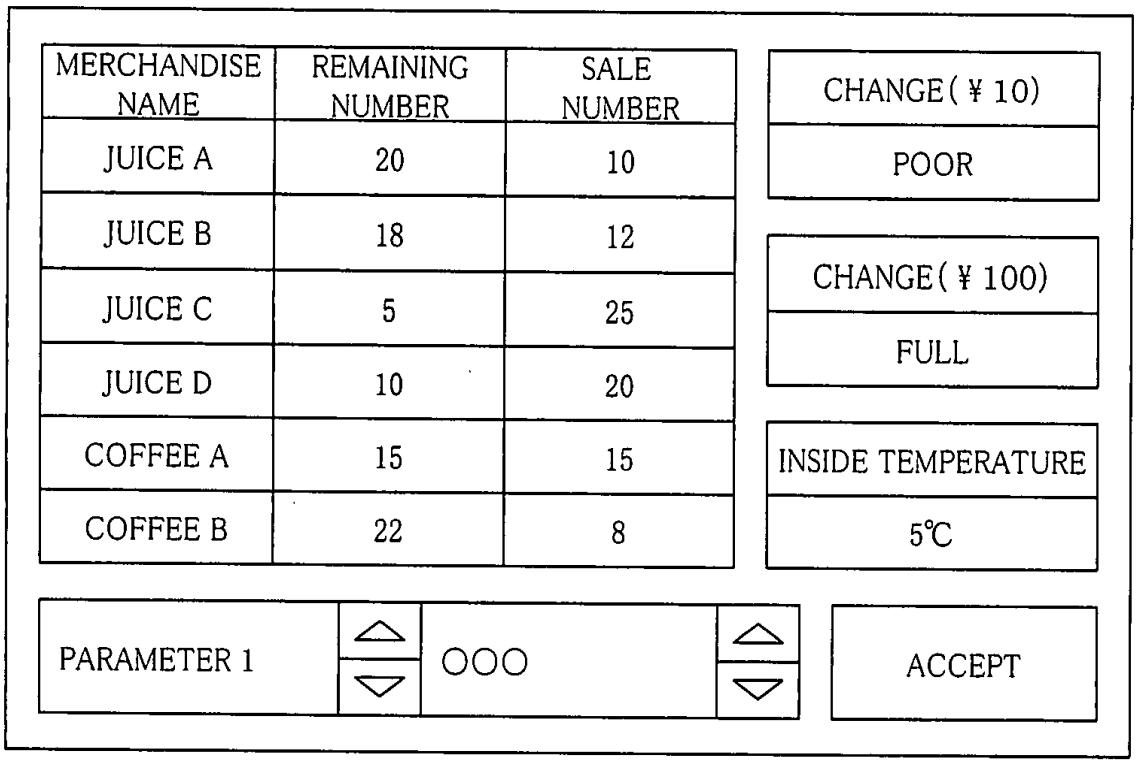

MERCHANDISE NAME
REMAINING NUMBER
SALE NUMBER
JUICE A
20
10
JUICE B
18
12
JUICE C
5
25
JUICE D
10
20
COFFEE A
15
15
COFFEE B
22
8
CHANGE(¥ 10)
POOR
CHANGE(¥ 100)
FULL
INSIDE TEMPERATURE
5℃
PARAMETER 1
OOO
ACCEPT

Fig. 4

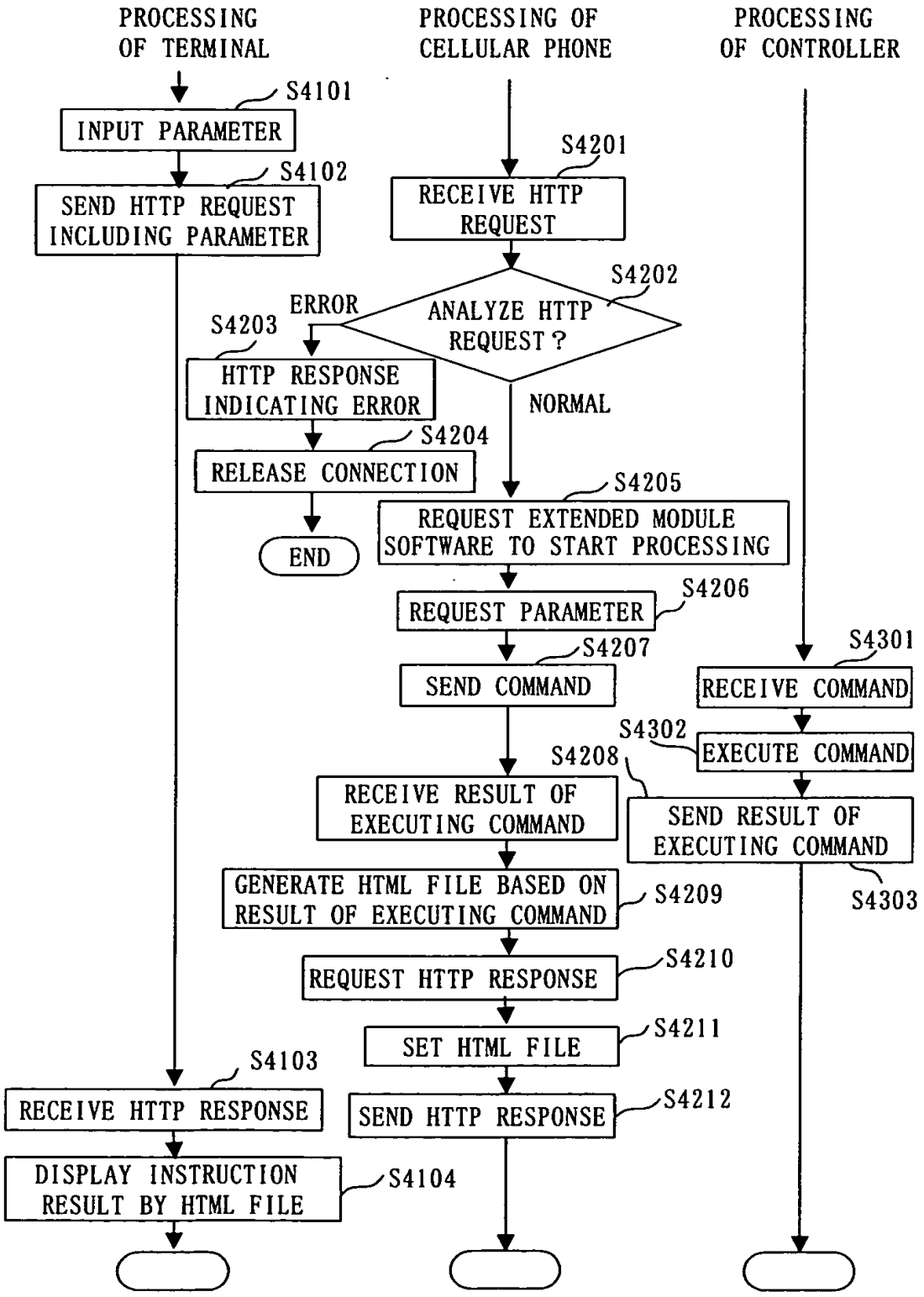

PROCESSING OF TERMINAL
PROCESSING OF CELLULAR PHONE
PROCESSING OF CONTROLLER
S4101
INPUT PARAMETER
S4102
SEND HTTP REQUEST INCLUDING PARAMETER
S4201
RECEIVE HTTP REQUEST
S4202
ANALYZE HTTP REQUEST ?
ERROR
S4203
HTTP RESPONSE INDICATING ERROR
NORMAL
S4204
RELEASE CONNECTION
END
S4205
REQUEST EXTENDED MODULE SOFTWARE TO START PROCESSING
S4206
REQUEST PARAMETER
S4207
SEND COMMAND
S4301
RECEIVE COMMAND
S4302
EXECUTE COMMAND
S4208
RECEIVE RESULT OF EXECUTING COMMAND
SEND RESULT OF EXECUTING COMMAND
S4303
GENERATE HTML FILE BASED ON RESULT OF EXECUTING COMMAND
S4209
REQUEST HTTP RESPONSE
S4210
SET HTML FILE
S4211
S4103
RECEIVE HTTP RESPONSE
SEND HTTP RESPONSE
S4212
DISPLAY INSTRUCTION RESULT BY HTML FILE
S4104

Fig. 5

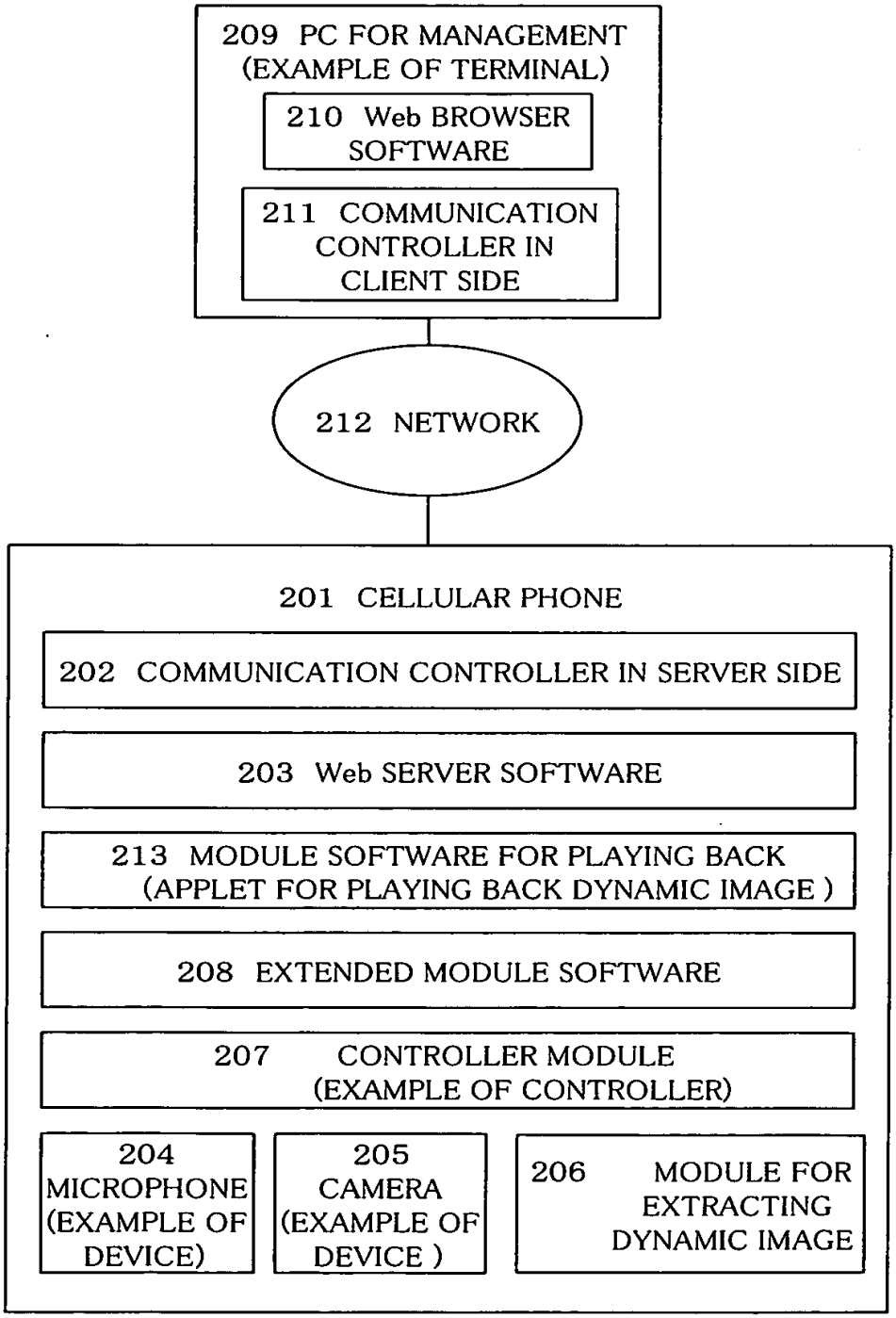

209 PC FOR MANAGEMENT (EXAMPLE OF TERMINAL)
210 Web BROWSER SOFTWARE
211 COMMUNICATION CONTROLLER IN CLIENT SIDE
212 NETWORK
201 CELLULAR PHONE
202 COMMUNICATION CONTROLLER IN SERVER SIDE
203 Web SERVER SOFTWARE
213 MODULE SOFTWARE FOR PLAYING BACK (APPLET FOR PLAYING BACK DYNAMIC IMAGE)
208 EXTENDED MODULE SOFTWARE
207 CONTROLLER MODULE (EXAMPLE OF CONTROLLER)
204 MICROPHONE (EXAMPLE OF DEVICE)
205 CAMERA (EXAMPLE OF DEVICE)
206 MODULE FOR EXTRACTING DYNAMIC IMAGE

Fig. 6

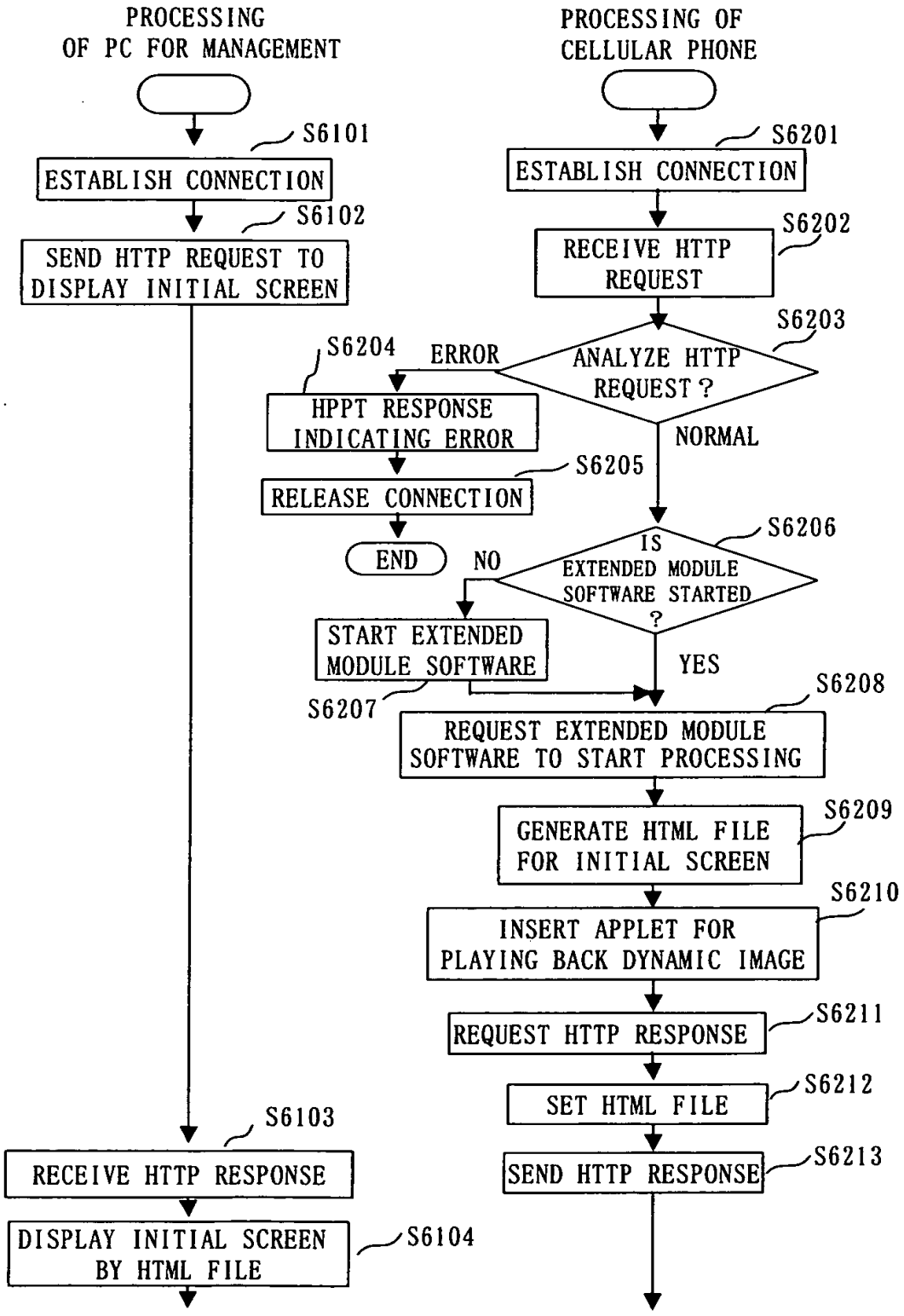

PROCESSING OF PC FOR MANAGEMENT
S6101
ESTABLISH CONNECTION
S6102
SEND HTTP REQUEST TO DISPLAY INITIAL SCREEN
S6103
RECEIVE HTTP RESPONSE
DISPLAY INITIAL SCREEN BY HTML FILE
S6104
PROCESSING OF CELLULAR PHONE
S6201
ESTABLISH CONNECTION
S6202
RECEIVE HTTP REQUEST
S6203
ANALYZE HTTP REQUEST ?
ERROR
S6204
HPPT RESPONSE INDICATING ERROR
S6205
RELEASE CONNECTION
END
NORMAL
S6206
IS EXTENDED MODULE SOFTWARE STARTED ?
NO
START EXTENDED MODULE SOFTWARE
S6207
YES
S6208
REQUEST EXTENDED MODULE SOFTWARE TO START PROCESSING
S6209
GENERATE HTML FILE FOR INITIAL SCREEN
S6210
INSERT APPLET FOR PLAYING BACK DYNAMIC IMAGE
S6211
REQUEST HTTP RESPONSE
S6212
SET HTML FILE
S6213
SEND HTTP RESPONSE

Fig. 7

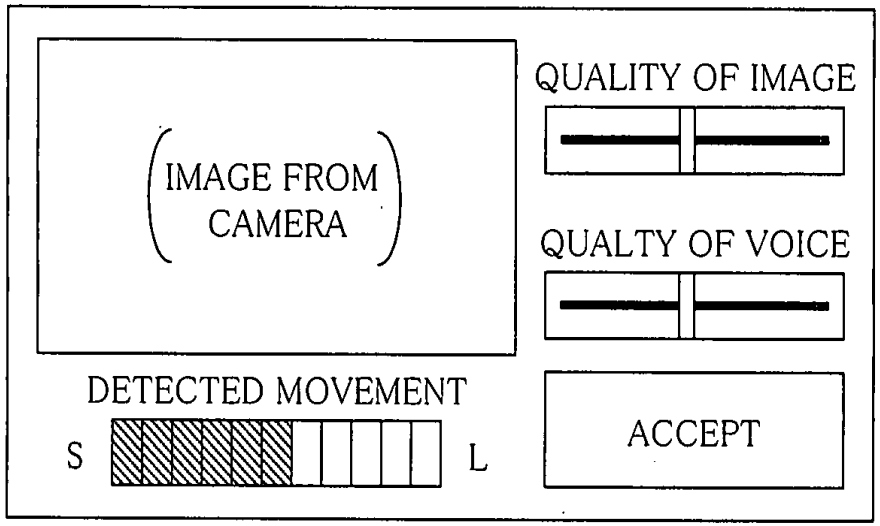


IMAGE FROM CAMERA
QUALITY OF IMAGE
QUALTY OF VOICE
DETECTED MOVEMENT
S
L
ACCEPT

Fig. 8

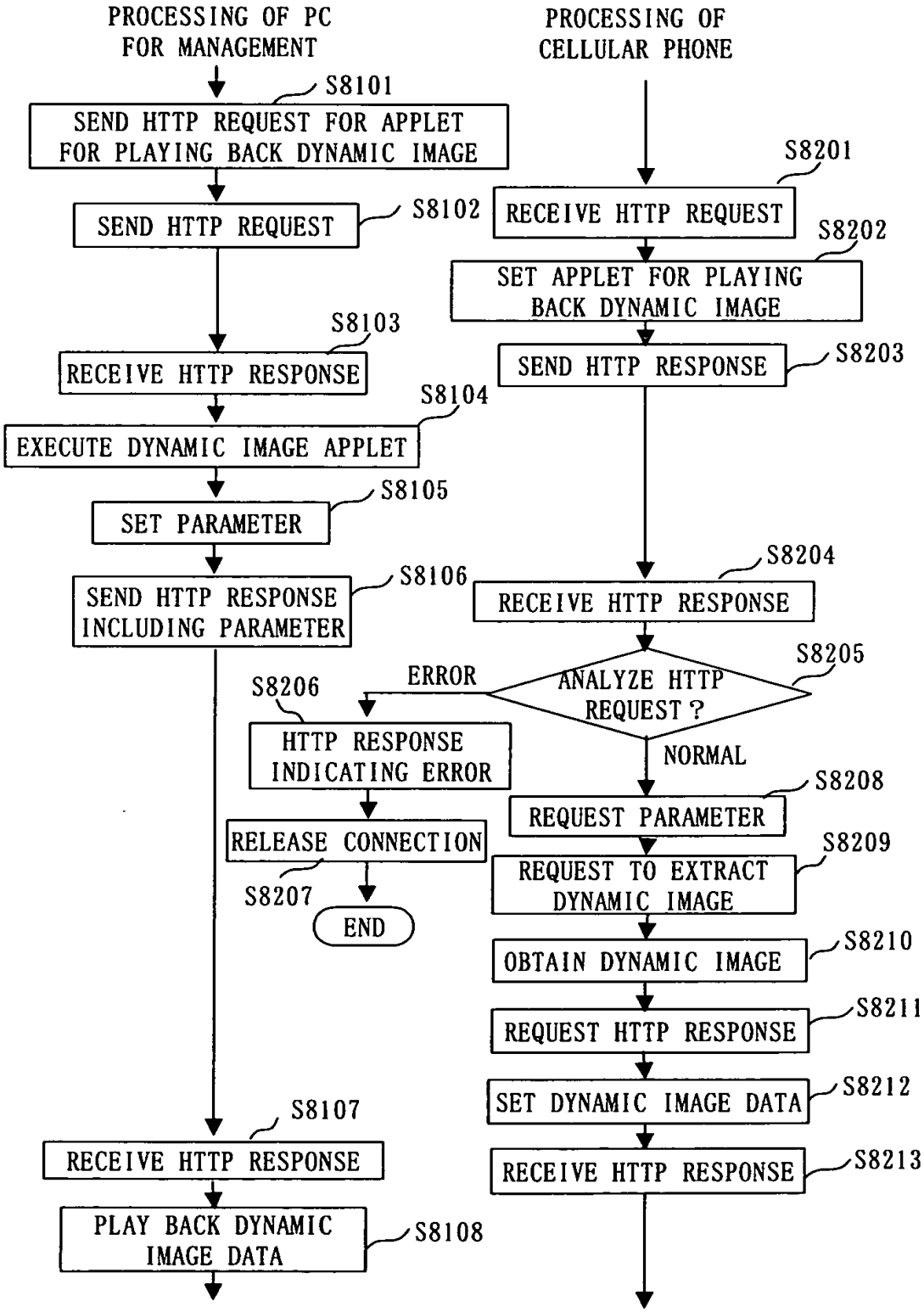

PROCESSING OF PC FOR MANAGEMENT
PROCESSING OF CELLULAR PHONE
S8101
SEND HTTP REQUEST FOR APPLET FOR PLAYING BACK DYNAMIC IMAGE
S8102
SEND HTTP REQUEST
S8103
RECEIVE HTTP RESPONSE
S8104
EXECUTE DYNAMIC IMAGE APPLET
S8105
SET PARAMETER
S8106
SEND HTTP RESPONSE INCLUDING PARAMETER
S8107
RECEIVE HTTP RESPONSE
PLAY BACK DYNAMIC IMAGE DATA
S8108
S8201
RECEIVE HTTP REQUEST
S8202
SET APPLET FOR PLAYING BACK DYNAMIC IMAGE
S8203
SEND HTTP RESPONSE
S8204
RECEIVE HTTP RESPONSE
S8205
ANALYZE HTTP REQUEST ?
ERROR
S8206
HTTP RESPONSE INDICATING ERROR
RELEASE CONNECTION
S8207
END
NORMAL
S8208
REQUEST PARAMETER
S8209
REQUEST TO EXTRACT DYNAMIC IMAGE
S8210
OBTAIN DYNAMIC IMAGE
S8211
REQUEST HTTP RESPONSE
S8212
SET DYNAMIC IMAGE DATA
S8213
RECEIVE HTTP RESPONSE

Fig. 9

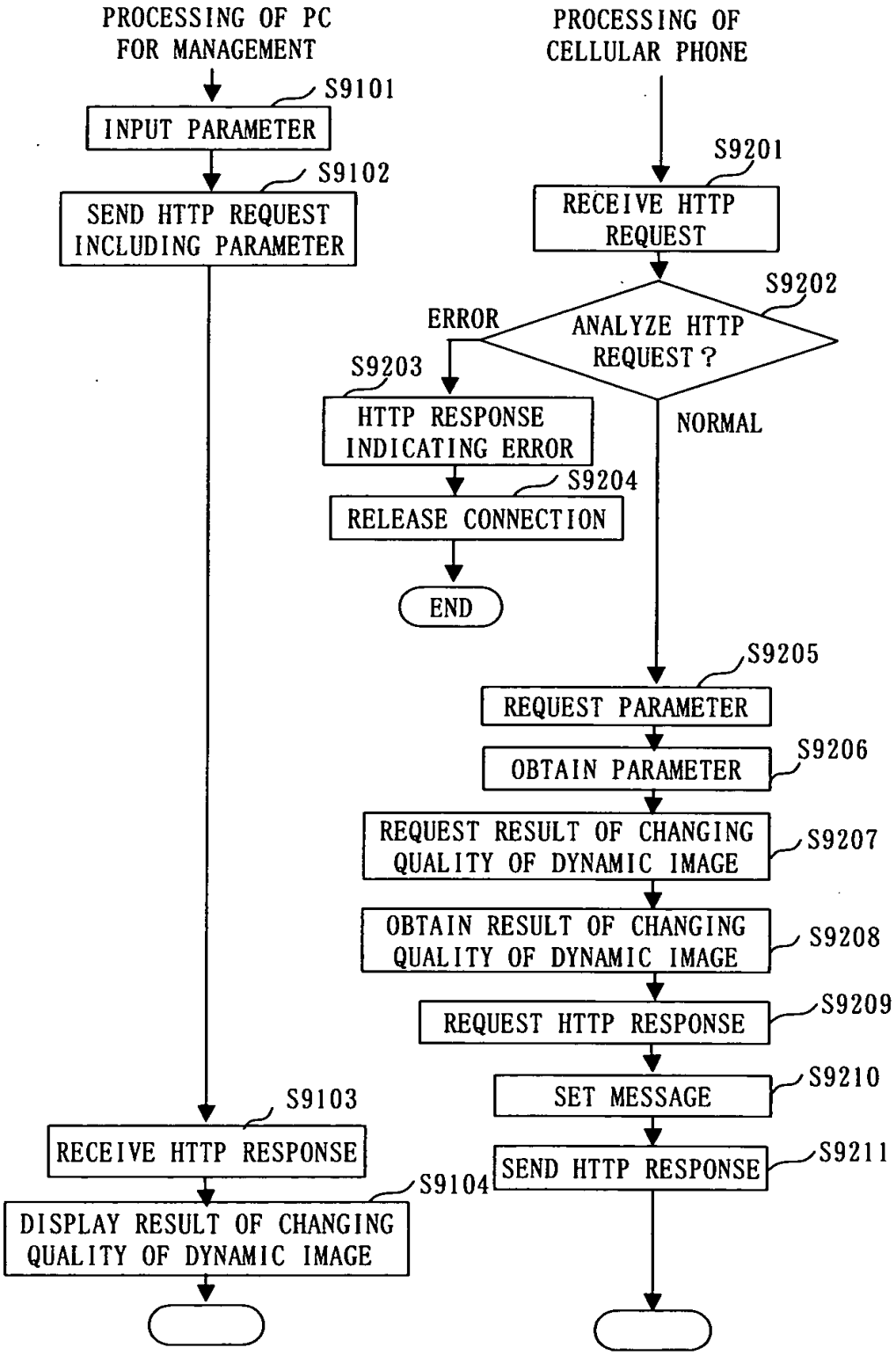

PROCESSING OF PC FOR MANAGEMENT
S9101
INPUT PARAMETER
S9102
SEND HTTP REQUEST INCLUDING PARAMETER
S9103
RECEIVE HTTP RESPONSE
S9104
DISPLAY RESULT OF CHANGING QUALITY OF DYNAMIC IMAGE
PROCESSING OF CELLULAR PHONE
S9201
RECEIVE HTTP REQUEST
S9202
ANALYZE HTTP REQUEST ?
ERROR
NORMAL
S9203
HTTP RESPONSE INDICATING ERROR
S9204
RELEASE CONNECTION
END
S9205
REQUEST PARAMETER
S9206
OBTAIN PARAMETER
S9207
REQUEST RESULT OF CHANGING QUALITY OF DYNAMIC IMAGE
S9208
OBTAIN RESULT OF CHANGING QUALITY OF DYNAMIC IMAGE
S9209
REQUEST HTTP RESPONSE
S9210
SET MESSAGE
S9211
SEND HTTP RESPONSE

Fig.10

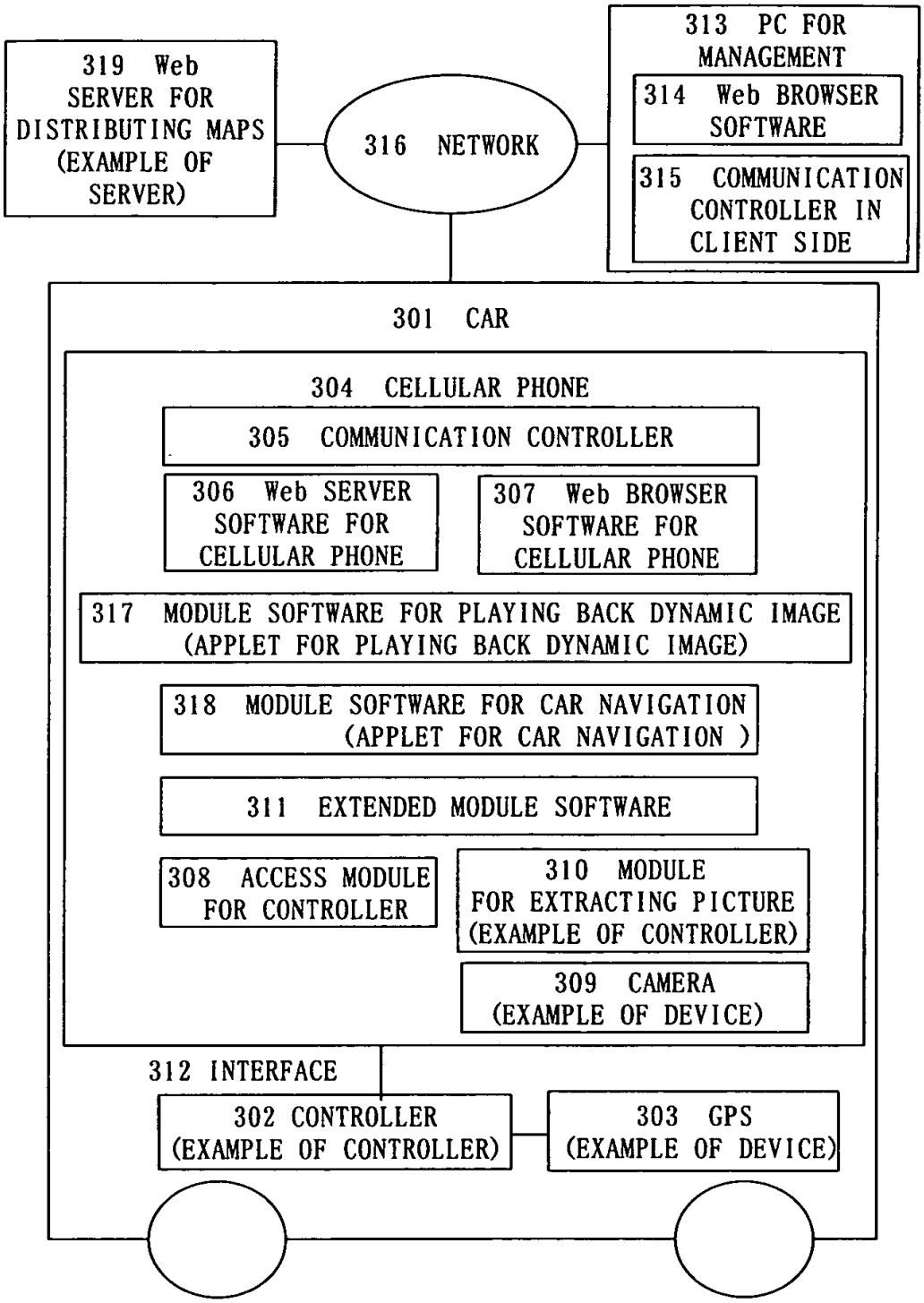

319 Web SERVER FOR DISTRIBUTING MAPS (EXAMPLE OF SERVER)
316 NETWORK
313 PC FOR MANAGEMENT
314 Web BROWSER SOFTWARE
315 COMMUNICATION CONTROLLER IN CLIENT SIDE
301 CAR
304 CELLULAR PHONE
305 COMMUNICATION CONTROLLER
306 Web SERVER SOFTWARE FOR CELLULAR PHONE
307 Web BROWSER SOFTWARE FOR CELLULAR PHONE
317 MODULE SOFTWARE FOR PLAYING BACK DYNAMIC IMAGE (APPLET FOR PLAYING BACK DYNAMIC IMAGE)
318 MODULE SOFTWARE FOR CAR NAVIGATION (APPLET FOR CAR NAVIGATION)
311 EXTENDED MODULE SOFTWARE
308 ACCESS MODULE FOR CONTROLLER
310 MODULE FOR EXTRACTING PICTURE (EXAMPLE OF CONTROLLER)
309 CAMERA (EXAMPLE OF DEVICE)
312 INTERFACE
302 CONTROLLER (EXAMPLE OF CONTROLLER)
303 GPS (EXAMPLE OF DEVICE)

Fig.11

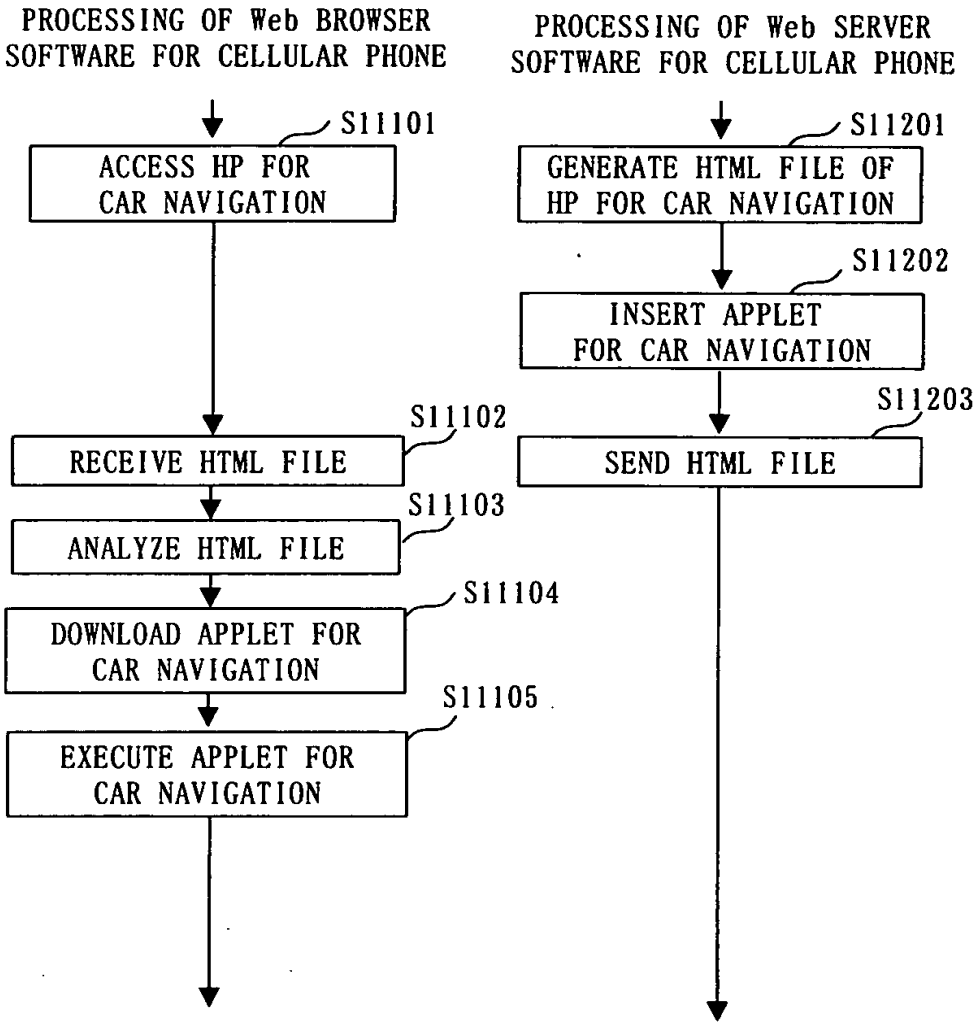

PROCESSING OF Web BROWSER SOFTWARE FOR CELLULAR PHONE
PROCESSING OF Web SERVER SOFTWARE FOR CELLULAR PHONE
S11101
ACCESS HP FOR CAR NAVIGATION
S11201
GENERATE HTML FILE OF HP FOR CAR NAVIGATION
S11202
INSERT APPLET FOR CAR NAVIGATION
S11203
SEND HTML FILE
S11102
RECEIVE HTML FILE
S11103
ANALYZE HTML FILE
S11104
DOWNLOAD APPLET FOR CAR NAVIGATION
S11105
EXECUTE APPLET FOR CAR NAVIGATION

Fig.12

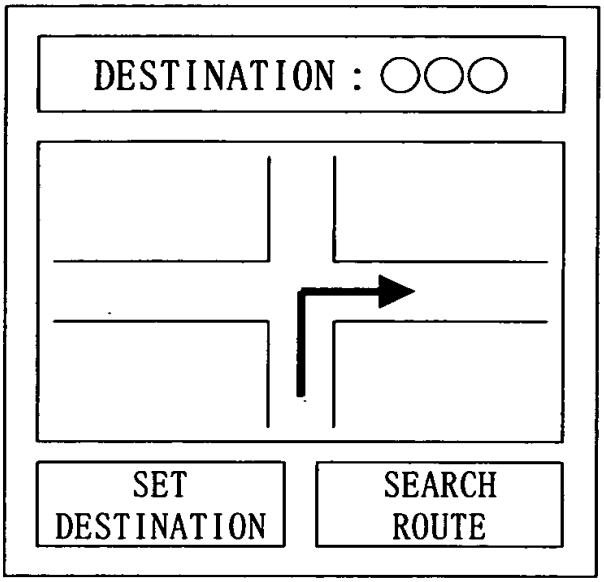


Fig.13

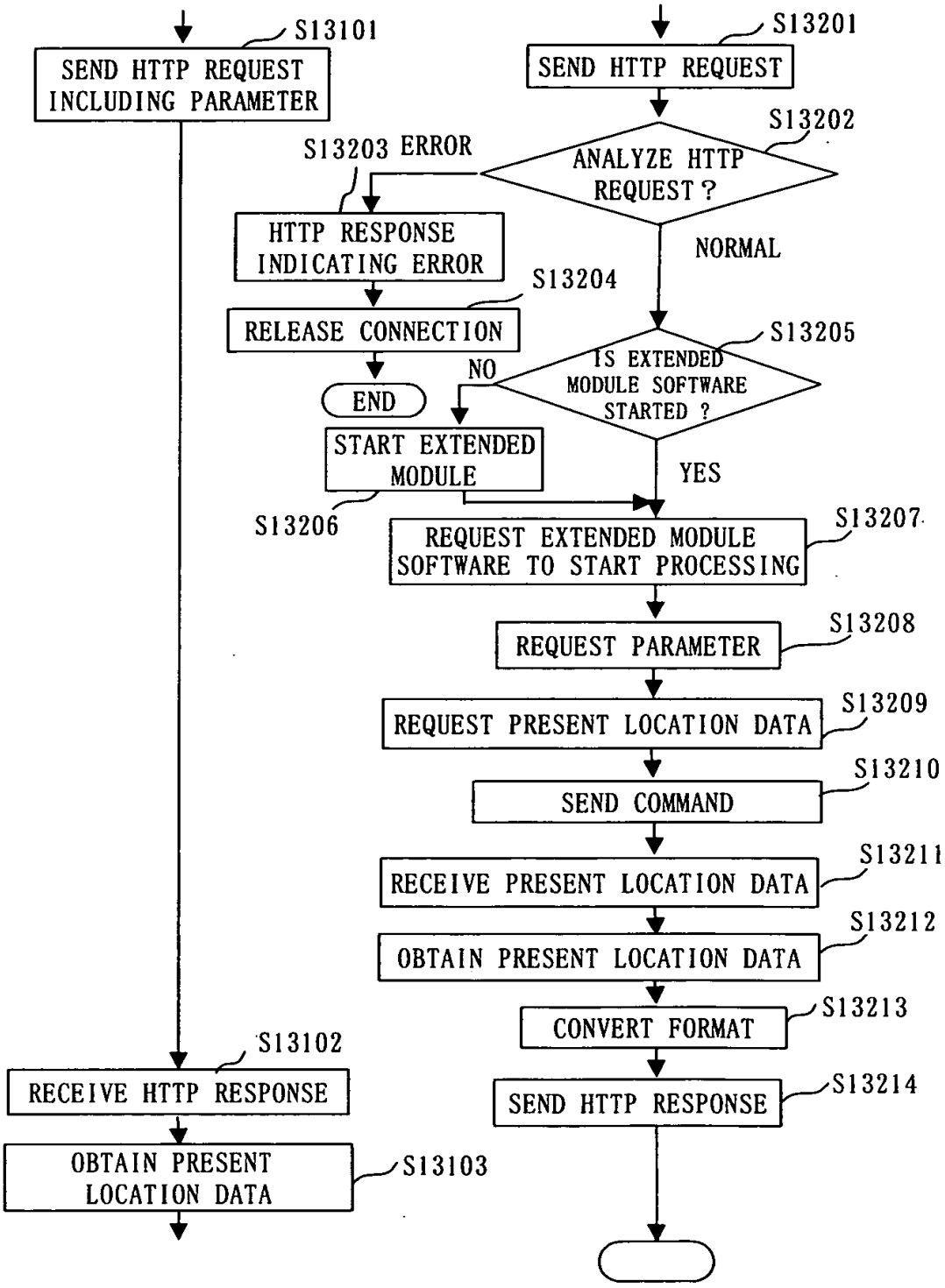

S13101
SEND HTTP REQUEST INCLUDING PARAMETER
S13102
RECEIVE HTTP RESPONSE
OBTAIN PRESENT LOCATION DATA
S13103
S13201
SEND HTTP REQUEST
S13202
ANALYZE HTTP REQUEST ?
S13203 ERROR
HTTP RESPONSE INDICATING ERROR
S13204
RELEASE CONNECTION
END
NORMAL
S13205
IS EXTENDED MODULE SOFTWARE STARTED ?
NO
START EXTENDED MODULE
S13206
YES
S13207
REQUEST EXTENDED MODULE SOFTWARE TO START PROCESSING
S13208
REQUEST PARAMETER
S13209
REQUEST PRESENT LOCATION DATA
S13210
SEND COMMAND
S13211
RECEIVE PRESENT LOCATION DATA
S13212
OBTAIN PRESENT LOCATION DATA
S13213
CONVERT FORMAT
S13214
SEND HTTP RESPONSE

Fig. 14 RELATED ART

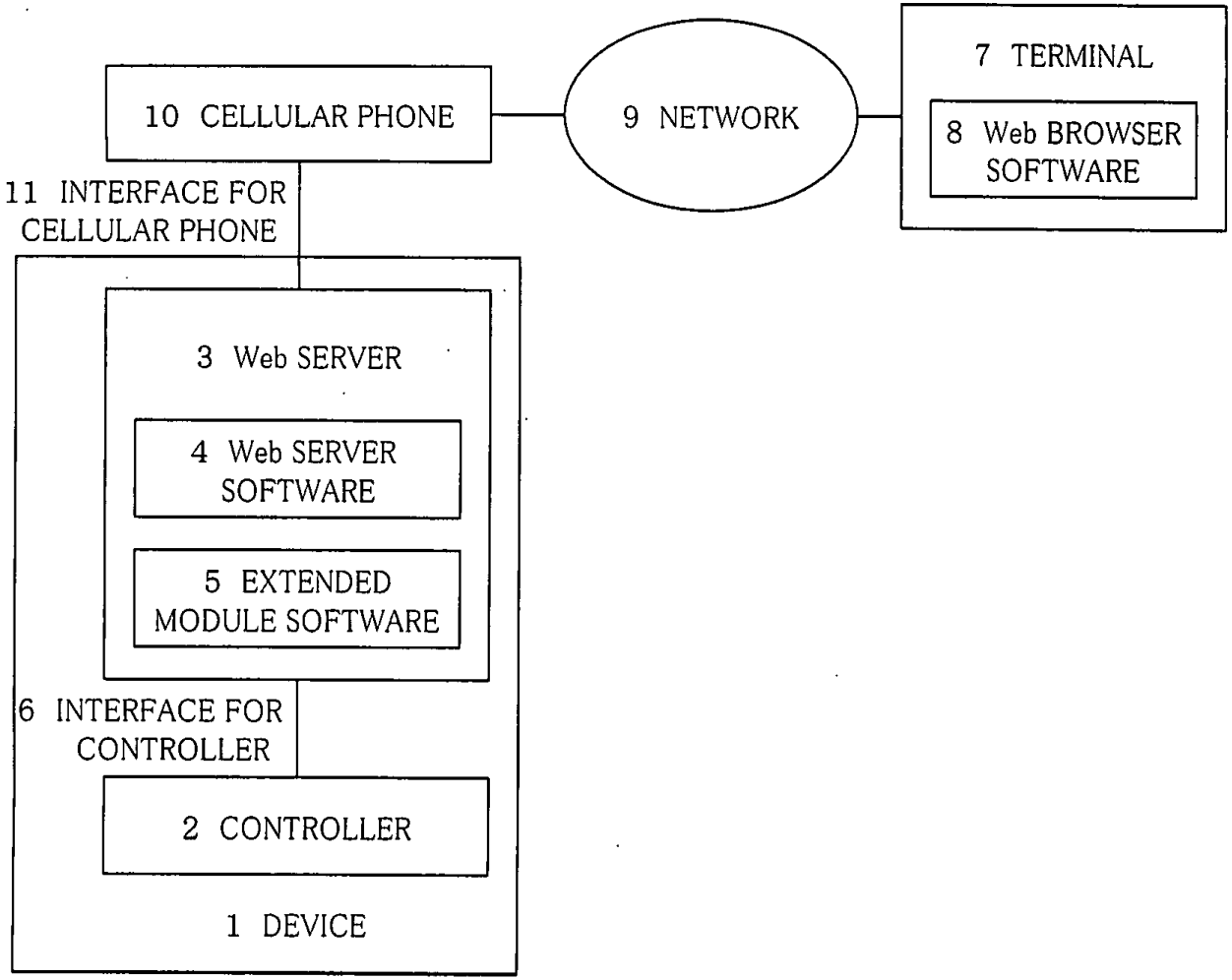


Fig. 15 RELATED ART

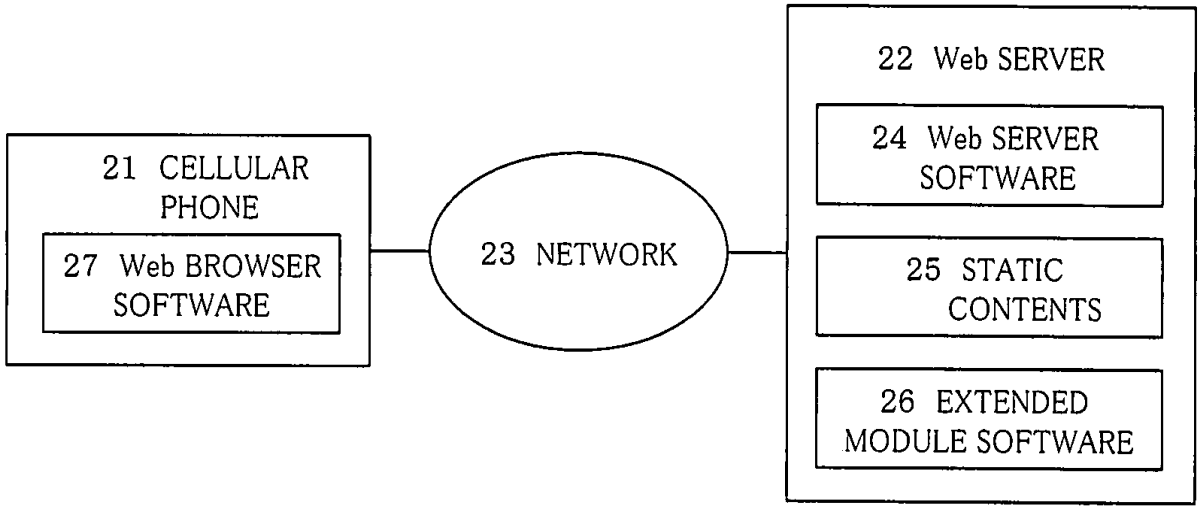


Fig. 16

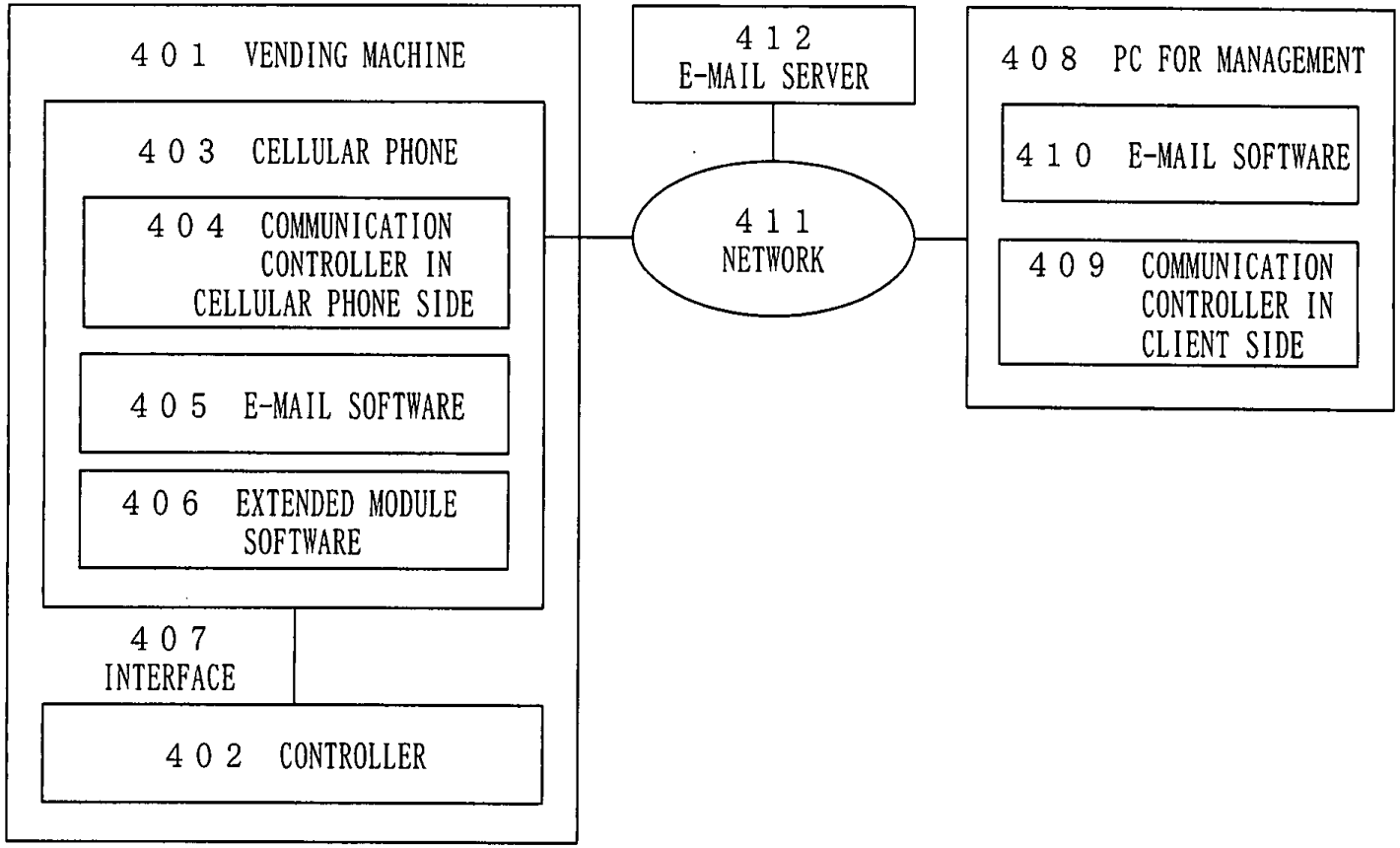

401 VENDING MACHINE
403 CELLULAR PHONE
404 COMMUNICATION CONTROLLER IN CELLULAR PHONE SIDE
405 E-MAIL SOFTWARE
406 EXTENDED MODULE SOFTWARE
407 INTERFACE
402 CONTROLLER
412 E-MAIL SERVER
411 NETWORK
408 PC FOR MANAGEMENT
410 E-MAIL SOFTWARE
409 COMMUNICATION CONTROLLER IN CLIENT SIDE

Fig. 17

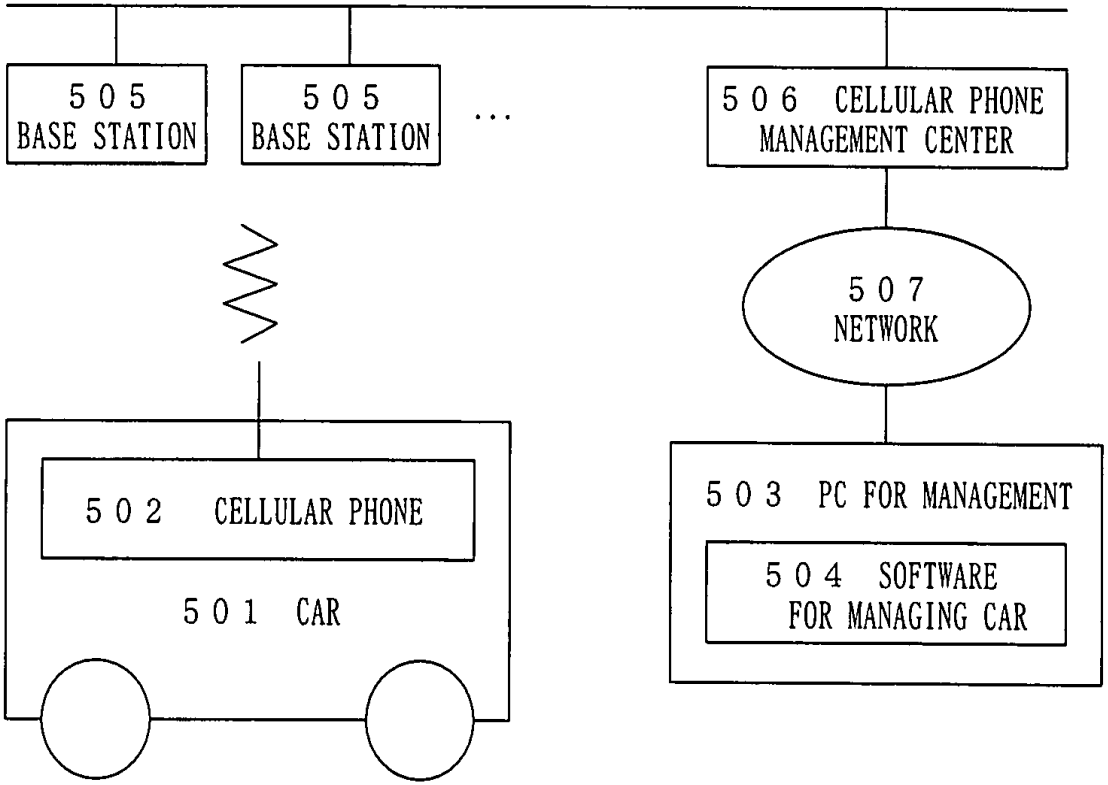
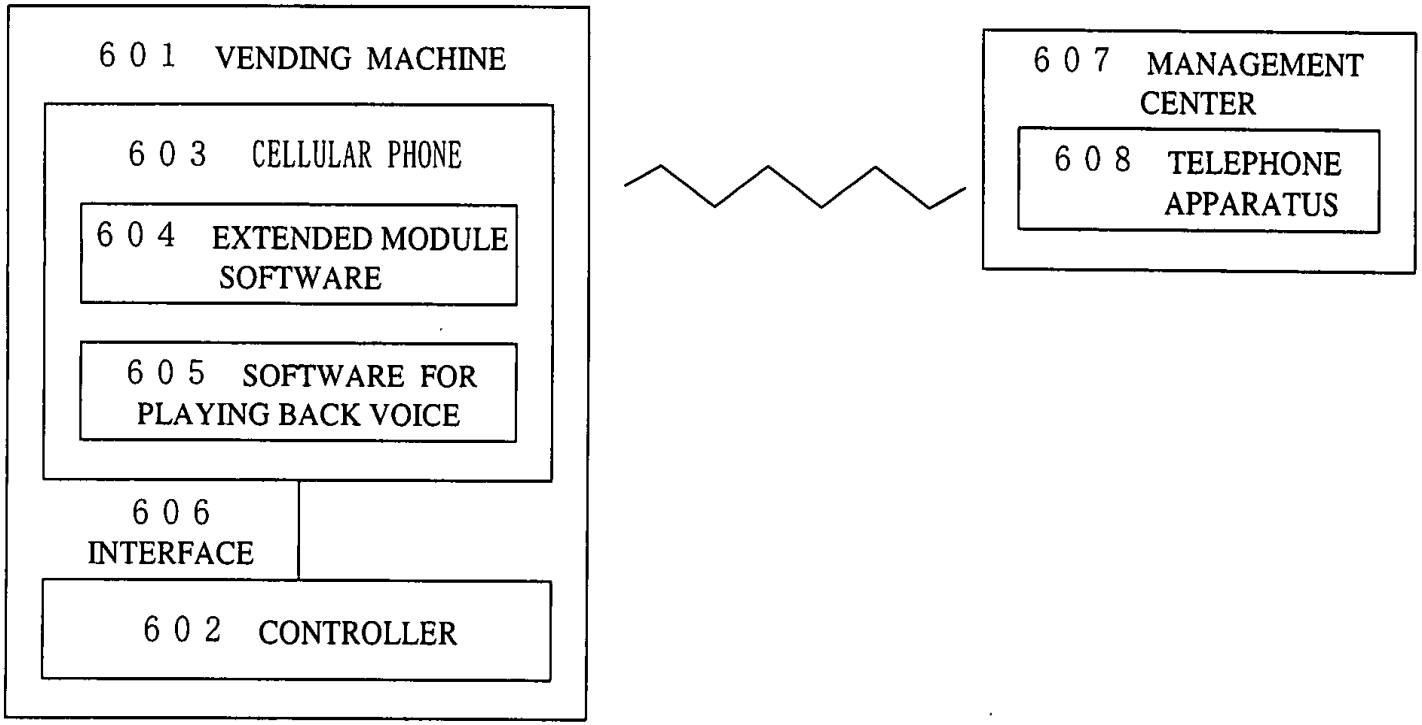

505
BASE STATION
505
BASE STATION
...
506 CELLULAR PHONE
MANAGEMENT CENTER
507
NETWORK
502 CELLULAR PHONE
501 CAR
503 PC FOR MANAGEMENT
504 SOFTWARE
FOR MANAGING CAR

Fig. 18


601 VENDING MACHINE
603 CELLULAR PHONE
604 EXTENDED MODULE SOFTWARE
605 SOFTWARE FOR PLAYING BACK VOICE
606 INTERFACE
602 CONTROLLER
607 MANAGEMENT CENTER
608 TELEPHONE APPARATUS